

REMARKS

Claims 1-12 are pending in the application. Claims 1, 2, 7 and 9-11 are rejected. Claims 3-6, 8 and 12 are objected to. All rejections and objections are respectfully traversed.

The claims have been renumbered according to the Examiner's indication. In addition, claims 1, 2, 7 and 8 have been amended to correct typographical errors. No new subject matter is added.

The invention selects a circuit to service an application request to transmit data over a network, where the network includes at least one low bandwidth circuit and one high bandwidth circuit. For each of the circuits, an average utilization is measured if the application request is assigned to the circuit. The application request is assigned to the high bandwidth circuit if the average utilization is less than a predetermined threshold. The application request is assigned to the low bandwidth circuit if the average utilization is less than one. Otherwise, the application request is declined.

Claims 1, 7 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dillon et al. (U.S. Patent Application Pub. No. 2002/0073225) in view of Gusella et al. (U.S. Patent No. 5,408,465).

It is important that the Examiner understands that before assigning an application service request to a high or low bandwidth circuit, the invention measures average utilization, including the application service request were it assigned to the circuit, for each of the circuits in the network. The first choice is always to assign the

application service request to the high bandwidth circuit if the average utilization is less than a predetermined threshold. If not, then the application request is assigned to the low bandwidth circuit if the average utilization is less than one for a low bandwidth circuit. If none of the conditions is met, the request is declined.

Dillon describes a graphical user interface that allows a user to select whether data downloaded from a network, such as the Internet, is transmitted to the requesting terminal via a high-speed link, such as a satellite link, or a lower speed link, such as a terrestrial link, see Dillon, Abstract and paragraph [0132], at least. Dillon has absolutely nothing to do with the invention, which assigns a circuit based on a measured utilization for each circuit.

Gusella describes an admission control scheme for real-time traffic requests in communication networks. The method according to Gusella continuously determines links in the network that are unavailable. When a traffic request occurs, a potential route is determined using only links that are available. Then the performance of the potential route is predicted in order to determine whether another route should be considered instead.

In particular, Gusella monitors the performance of each link in a potential route and predicts traffic guarantees that can be offered when dummy traffic (pseudo traffic) mimicking the behavior of real-time streams is added to the existing traffic. In Gusella, the potential route is determined by a routing subsystem based on overall network performance using available links. As stated at col. 12, lines 59-68, “*prior to admission of the application request, the predicted performance parameter of each of the outgoing links 6, 10 in the potential path are added 7 1 together. If multiple service classes are used with each link, (sic) tile predicted*

performance parameter for the appropriate service class is used. In any event, the resulting sum is the end-to-end performance parameter value that is available to the application request along the potential path.” There, Gusella considers a single potential path based on prior knowledge of the network traffic. Claimed is measuring, for each of the circuits, an average utilization if the application request is assigned to the circuit and assigning the application request to the high bandwidth circuit if the average utilization is less than a predetermined threshold.

The invention measures utilization of each circuit, and looks to the high bandwidth circuit first. Then, if the threshold is not met, then the application request is assigned to the low bandwidth circuit if the average utilization is less than one. Otherwise, the application request is declined. Gusella operates in an entirely different way. There is no description of a hierarchical selection process based on a bandwidth of each circuit, as claimed. Gusella can never be used to make the invention obvious.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dillon in view of Gusella , and in further view of Gokulrangan (U.S. 6,658,512).

Gokulrangan does not cure the deficiencies of Dillon and Gusella. Gokulrangan describes measuring a utilization of a peripheral bus to determine if additional resources can use the peripheral bus. Basically, in a system that includes devices requiring a pre-allocated bandwidth, much of that reserved bandwidth is not actually used by devices in the system, which results in under-utilization of system bandwidth. Therefore, instead of denying access requests based on the total pre-allocated bandwidth, Gokulrangan describes measuring actual utilization, and basing admission requests on the actual utilization. Claimed is a predetermined

threshold of one minus a guard bandwidth for preventing saturation of the high bandwidth circuit, which is used to determine if the first choice, high bandwidth circuit can be used. Gokulrangan never describes circuit selection based on degrees of bandwidth capacity as claimed. Gokulrangan only considers if there is enough bandwidth in a system to admit a device or application at all. That can never make obvious what is claimed.

All rejections have been complied with, and applicant respectfully submits that the application is now in condition for allowance. The applicant urges the Examiner to contact the applicant's attorney at the phone and address indicated below if assistance is required to move the present application to allowance. Please charge any shortages in fees in connection with this filing to Deposit Account 50-0749.

Respectfully Submitted,



Andrew J. Curtin
Registration No. 48,485

Mitsubishi Electric Research Laboratories, Inc.
201 Broadway, 8th Floor
Cambridge, MA 02139
Telephone: (617) 621-7573
Facsimile: (617) 621-7550